

	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L1	16	((laser near5 (power near3 level)) same stepwise)	USPAT	2004/03/15 10:25	
2	BRS	L2	10	((laser near5 (power near3 level)) same stepwise)	US-PGPUB; EPO; JPO; DERWENT; IBM-TDB	2004/03/15 10:25	
3	BRS	L3	2119	369/116	USPAT	2004/03/15 10:27	
4	BRS	L4	207	369/59.11	USPAT	2004/03/15 10:27	
5	BRS	L5	200	369/47.5	USPAT	2004/03/15 10:27	
6	BRS	L6	169	369/47.51	USPAT	2004/03/15 10:28	
7	BRS	L7	2189	3 or 4	USPAT	2004/03/15 10:28	
8	BRS	L8	285	5 or 6	USPAT	2004/03/15 10:28	
9	BRS	L9	2259	7 or 8	USPAT	2004/03/15 10:28	
10	BRS	L10	1166	9 and (laser near5 power)	USPAT	2004/03/15 10:28	
11	BRS	L11	29	10 and (((multi near4 level) multilevel) same power)	USPAT	2004/03/15 10:28	
12	BRS	L12	29	10 and (((multi near4 level) multilevel) same power)	USPAT	2004/03/15 10:34	
13	BRS	L13	3	12 and (organic near4 dye)	USPAT	2004/03/15 10:35	

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- L4: (207) 369/59.11
- L5: (200) 369/47.5
- L6: (169) 369/47.51
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- L10: (1166) 9 and ((laser n
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12 and (organic near4 dye)

BRS term IS&R form Image Text HTML

	U	I	Document ID	Issue Date	Pages	Title	Current OR	Current XR	Retrieval
1	<input type="checkbox"/>	<input type="checkbox"/>	US 6699557	20040302	30	Optical recording medium and optical reco	428/64.4	369/275.4;	
			B2					428/64.2;	
2	<input type="checkbox"/>	<input type="checkbox"/>	US 6664526	20031216	55	Optical information recording employing imp	250/201.5	369/59.19	
3	<input type="checkbox"/>	<input type="checkbox"/>	US 6611484	20030826	16	Optical recording medium and method	369/59.11	369/116;	
			B2					369/47.51	

# PATENT ABSTRACTS OF JAPAN

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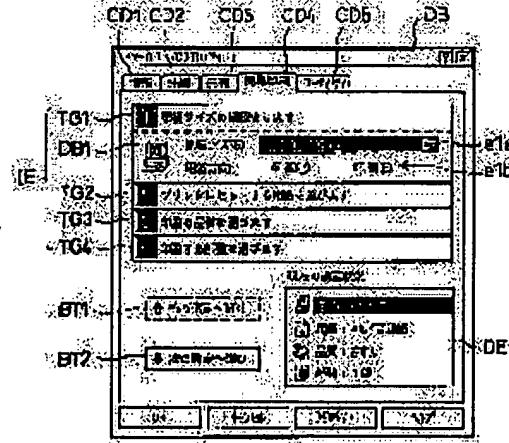
(22) Date of filing : 22.12.1998 (72) Inventor : OTANI TSUTOMU  
SAKAI HIROAKI

## (54) DEVICE AND METHOD FOR SETTING PRINTING INFORMATION AND RECORDING MEDIUM

### (57) Abstract:

PROBLEM TO BE SOLVED: To improve convenience when data is inputted.

SOLUTION: The arrangement of tags TG1 to TG4 showing printing procedures is displayed on a display screen for printer driver setting. The tags TG1 to TG4 show the arrangement of procedures obtained by dividing needed for the setting of simple printing into four groups and sequencing each group. When any of the tags TG1 to TG4 is clicked by operating a mouse, a dialog box DB1 provided with a data input field where data about the tag are inputted is opened directly under the tag. A user can input the whole necessary data by performing data input in the order of the tags TG1 to TG4.



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## CLAIMS

## [Claim(s)]

[Claim 1] A printed information setting device which sets up various information for printing in a predetermined airline printer by displaying a screen for data inputs characterized by providing the following on an indicating equipment, and incorporating input data from an input unit operated according to this screen for data inputs A storage means to memorize an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order A 1st display-control means to display an index train which shows an array of work habits memorized by said storage means in said screen for data inputs A selection means to choose an index of arbitration from said index trains A 2nd display-control means to display the data input column for inputting said various information corresponding to an activity shown with a this selected index in a screen for data inputs where said index train is displayed

[Claim 2] It is a printed information setting device equipped with a selection activation means to move said index chosen in order according to said group's sequencing when it is a printed information setting device according to claim 1 and a 3rd display-control means by which said selection means displays a carbon button for index selection in said screen for data inputs, and said carbon button are operated.

[Claim 3] An array of said work habits is a printed information setting device according to claim 1 or 2 which is the array which shows work habits with a numeric character which shows ranking of said sequencing.

[Claim 4] Said 1st display-control means and the 2nd display-control means are a printed information setting device according to claim 1 to 3 which is a means to display said index train and said data input column on a portion of image data of a screen for data inputs stored in memory for image display, and to display the contents of writing and this memory for image display on said display.

[Claim 5] a printed information setting device according to claim 1 to 4 which is the array said whose index train includes an activity in connection with a "manuscript", a "form", and "quality" at least.

[Claim 6] A printed information setting device equipped with the 4th display-control means which indicates by list all the data inputted from the data input column which is a printed information setting device according to claim 1 to 5, and was displayed by said 2nd display-control means at a display.

[Claim 7] A printed information setting device which sets up various information for printing in a predetermined airline printer by displaying a screen for data inputs characterized by providing the following on an indicating equipment, and incorporating input data from an input unit operated according to this screen for data inputs A storage means to memorize an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order A 1st display-control means to display an index train which shows an array of work habits memorized by said storage means in said screen for data inputs A selection means to choose an index of arbitration from said index trains It is a 2nd display-control means display the viewing area which shows the data input column for inputting said various information corresponding to an activity shown with this index about the index chosen by said selection means, and shows the contents of said various information already inputted from said data input column about the index which

is not chosen by said selection means on the location which stands in a row against each index of said index train in said screen for data inputs.

[Claim 8] Said 2nd display-control means, a print control unit according to claim 7 which is the configuration which displays the contents of said various information with a mark, related with these contents.

[Claim 9] A printed information setting method of setting up various information for printing in a predetermined airline printer by displaying a screen for data inputs characterized by providing the following on an indicating equipment, and incorporating input data from an input unit operated according to this screen for data inputs (a) A production process which memorizes an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order (b) A production process which displays an index train which shows an array of memorized this work habits in said screen for data inputs (c) A production process which chooses an index of arbitration from said index trains (d) A production process which displays the data input column for inputting said various information corresponding to an activity shown with a this selected index in a screen for data inputs where said index train is displayed

[Claim 10] A printed information setting method of setting up various information for printing in a predetermined airline printer by displaying a screen for data inputs characterized by providing the following on an indicating equipment, and incorporating input data from an input unit operated according to this screen for data inputs (a) A production process which memorizes an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order (b) A production process which displays an index train which shows an array of memorized this work habits in said screen for data inputs (c) A production process which chooses an index of arbitration from said index trains (d) It is the production process which displays the viewing area which shows the data input column for inputting said various information corresponding to an activity shown with this index about the index chosen by said production process (c), and shows the contents of said various information already inputted from said data input column about the index which is not chosen by said production process (c) on the location which stands in a row against each index of said index train in said screen for data inputs.

[Claim 11] By displaying a screen for data inputs on an indicating equipment, and incorporating input data from an input unit operated according to this screen for data inputs It is the record medium which recorded a computer program for setting up various information for printing in a predetermined airline printer and in which computer reading is possible. (a) A function to memorize an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) A function which displays an index train which shows an array of memorized this work habits in said screen for data inputs, (c) the data input column for inputting said various information corresponding to a function which chooses an index of arbitration from said index trains, and an activity shown with a (d) this chosen index A record medium which recorded a computer program for making a computer realize a function displayed in a screen for data inputs where said index train is displayed and in which computer reading is possible.

[Claim 12] It is a record medium equipped with a function to move said index chosen in order according to said group's sequencing when it is a record medium according to claim 11 and said carbon button is operated with a function in which said function (c) displays a carbon button for index selection in said screen for data inputs.

[Claim 13] An array of said work habits is a record medium according to claim 11 or 12 which is the array which shows work habits with a numeric character which shows ranking of said sequencing.

[Claim 14] Said function (b) and function (d) are a record medium according to claim 11 which is the function which displays said index train and said data input column on a portion of image data of a screen for data inputs stored in memory for image display, and displays the contents of writing and this memory for image display on said display.

[Claim 15] a record medium according to claim 11 which is the array said whose index train includes an activity in connection with a "manuscript", a "form", and "quality" at least.

[Claim 16] By displaying a screen for data inputs on an indicating equipment, and incorporating input data from an input unit operating according to this screen for data inputs It is the record medium which recorded a computer program for setting up various information for printing in a predetermined airline printer and in which computer reading is possible. (a) A function to memorize an array of work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) A function which displays an index train which shows an array of memorized this work habits in said screen for data inputs, (c) about a function which chooses an index of arbitration from said index trains, and an index chosen by the (d) aforementioned function (c) About an index which shows the data input column for inputting said various information corresponding to an activity shown with this index, and is not chosen by said function (c) A viewing area which shows the contents of said various information already inputted from said data input column A record medium which recorded a computer program for making a computer realize a function displayed on a location which stands in a row against each index of said index train in said screen for data inputs and in which computer reading is possible.

[Claim 17] Said function (d) is a record medium according to claim 16 which is the configuration which displays the contents of said various information with a mark related with these contents.

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[Translation done.]

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## DETAILED DESCRIPTION

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### [Detailed Description of the Invention]

[0001]

[The technical field to which invention belongs] This invention relates to the technology of setting up the various information for printing in a predetermined airline printer, by displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs.

[0002]

[Description of the Prior Art] Generally, a printer is connected with a computer, and when it is going to print to a printer the print data created by computer, it is necessary to incorporate the software called a printer driver to a computer. A printer driver is a computer program which sets various information about a printer, such as the function and interface of a printer, font information, and a control code, as a computer, and controls a printer, and is prepared for every model of printer which is going to print.

[0003] Drawing 21 is explanatory drawing which illustrates the dialog box 900 displayed by the conventional printer driver. Although a user can operate a computer, can start the printer driver included in the computer and can set up various information, in order to perform such a setup, he opens the dialog box 900 shown in drawing 21. Here, as various information, the thing about graphics, such as a thing about a form setup of the size of a form, page orientation, etc., print resolution, and color correction, etc. can be divided into two or more groups for every function to set up. The cards 901-905 for a setup according to individual are prepared for a dialog box 900 for these each class, and one card chosen by the operator with the pointing device (for example, mouse) from the cards 901-905 for a setup of these plurality is displayed on it so that it may illustrate.

[0004] An operator can set the information classified into the card according to inputting data into the card displayed in this way as a printer driver.

[0005]

[Problem(s) to be Solved by the Invention] However, said conventional printer driver had the problem of being user-unfriendly. That is, a user is because it cannot grasp from a printer driver it is necessary the information only on which to set up at worst, in order to print, and he tended to cause lack of the information to set up and the mistake of an informational item to set up in this printer driver. For this reason, in this printer driver, redo of a data input will be required of a user and it had become what has the bad user-friendliness for a user.

[0006] This invention is made in order to solve the above-mentioned technical problem in the conventional technology, and it aims at improving the user-friendliness at the time of inputting data into a printer driver.

[0007]

[The means for solving a technical problem, and its operation and effect] In order to solve such a technical problem, the 1st equipment of this invention By displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs In the printed information setting device which sets up the various information for

printing in a predetermined airline printer A storage means to memorize the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, A 1st display-control means to display the index train which shows the array of the work habits memorized by said storage means in said screen for data inputs, It is characterized by having a 2nd display-control means to display the data input column for inputting said various information corresponding to the activity indicated to be a selection means to choose the index of arbitration from said index trains with the this chosen index in the screen for data inputs where said index train is displayed.

[0008] According to this configuration, a user can grasp the work habits obtained by dividing an activity required for a setup of various information into two or more groups from the index train displayed by the 1st display-control means, and setting each group in order. For this reason, a user can avoid not inputting the information to set up or mistaking the item of the information to set up by choosing the index of arbitration sequentially from the inside of that index train with a selection means, and performing a data input from the data input column by the 2nd display-control means. Therefore, according to the above-mentioned printed information setting device, what produces redo of a data input to a user decreases, and the effect of excelling in the user-friendliness at the time of inputting data is done so.

[0009] In addition, the above-mentioned airline printer may be a print station which may be independent equipments, such as a printer, or is built in specific equipment (for example, facsimile apparatus) that what is necessary is just a configuration with the function which prints. In addition, also in invention mentioned later, an airline printer may be a print station similarly built in independent equipment or specific equipment.

[0010] In the printed information setting device of the above-mentioned configuration, said selection means can be considered as a configuration equipped with a 3rd display-control means to display the carbon button for index selection in said screen for data inputs, and a selection activation means to move said index chosen in order according to said group's sequencing when said carbon button is operated.

[0011] According to this configuration, being able to prevent a failure of the information to set up to input from the index contained in an index train being movable in order from the beginning to the last certainly by operating a carbon button.

[0012] Moreover, in the above-mentioned printed information setting device, the array of said work habits can also be considered as the configuration which is the array which shows work habits with the numeric character which shows the ranking of said sequencing. According to this configuration, since an operator can be told about the sequence of work habits at a glance, it becomes what was more excellent in user-friendliness for the user.

[0013] Furthermore, in the above-mentioned printed information setting device, said 1st display-control means and the 2nd display-control means can be considered as the configuration which is a means to display said index train and said data input column on the portion of the image data of the screen for data inputs stored in the memory for image display, and to display the contents of writing and this memory for image display on said display.

[0014] According to this configuration, drawing of the image by the 1st display-control means and drawing of the image by the 2nd display-control means will be made by coincidence.

[0015] In the above-mentioned printed information setting device, said index train can also do the activity in connection with a "manuscript", a "form", and "quality" on the array included at least. By this configuration, a setup of various information indispensable for printing is attained.

[0016] In the above-mentioned printed information setting device, it can also consider as a configuration equipped with the 4th display-control means which indicates by list all the data inputted from the data input column displayed by said 2nd display-control means at a display. By this configuration, the present contents of a setting can be known now also about indexes other than the index for which an entry of data is possible.

[0017] By the 2nd equipment of this invention displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for

data inputs In the printed information setting device which sets up the various information for printing in a predetermined airline printer A storage means to memorize the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, A 1st display-control means to display the index train which shows the array of the work habits memorized by said storage means in said screen for data inputs, About the index chosen by selection means to choose the index of arbitration from said index trains, and said selection means About the index which shows the data input column for inputting said various information corresponding to the activity shown with this index, and is not chosen by said selection means It is characterized by having a 2nd display-control means to display the viewing area which shows the contents of said various information already inputted from said data input column on the location which stands in a row against each index of said index train in said screen for data inputs.

[0018] According to this configuration, a user can grasp the work habits obtained by dividing an activity required for a setup of various information into two or more groups from the index train displayed by the 1st display-control means, and setting each group in order. For this reason, a user can avoid not inputting the information to set up or mistaking the item of the information to set up by choosing the index of arbitration sequentially from the inside of that index train with a selection means, and performing a data input from the data input column of the viewing area by the 2nd display-control means. Furthermore, about the index which is not chosen in the index train, since the contents of the information already inputted from the viewing area can be known, it becomes possible to get to know the mistake of a data input in an early phase.

[0019] Therefore, according to the printed information setting device of the above-mentioned configuration, what produces redo of a data input to a user decreases, and the effect of excelling in the user-friendliness at the time of inputting data is done so.

[0020] In the 2nd equipment of the above, said 2nd display-control means can be considered as the configuration which displays the contents of said various information with the mark related with these contents. According to this configuration, an operator can grasp a default easily as an image and becomes what was excellent in user-friendliness for the operator.

[0021] By the 1st method of this invention displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs In the printed information setting method of setting up the various information for printing in a predetermined airline printer (a) The production process which memorizes the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) The production process which displays the index train which shows the array of the memorized this work habits in said screen for data inputs, (c) It is characterized by having the production process which displays the data input column for inputting said various information corresponding to the production process which chooses the index of arbitration from said index trains, and the activity shown with the (d) this chosen index in the screen for data inputs where said index train is displayed.

[0022] The effect of excelling in the user-friendliness at the time of inputting data by the 1st method of this invention as well as the 1st equipment is done so.

[0023] By the 2nd method of this invention displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs In the printed information setting method of setting up the various information for printing in a predetermined airline printer (a) The production process which memorizes the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) The production process which displays the index train which shows the array of the memorized this work habits in said screen for data inputs, (c) about the index chosen by the production process which chooses the index of arbitration from said index trains, and the (d) aforementioned production process (c) About the index which shows the data input column for inputting said various information corresponding to the activity shown with this index, and is not chosen by said production process (c) It is characterized by having the production process which displays the

viewing area which shows the contents of said various information already inputted from said data input column on the location which stands in a row against each index of said index train in said screen for data inputs.

[0024] The effect of excelling in the user-friendliness at the time of inputting data by the 2nd method of this invention as well as the 2nd equipment is done so.

[0025] By the 1st record medium of this invention displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs It is the record medium which recorded the computer program for setting up the various information for printing in a predetermined airline printer and in which computer reading is possible. (a) The function to memorize the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) The function which displays the index train which shows the array of the memorized this work habits in said screen for data inputs, (c) the data input column for inputting said various information corresponding to the function which chooses the index of arbitration from said index trains, and the activity shown with the (d) this chosen index It is characterized by recording the computer program for making a computer realize the function displayed in the screen for data inputs where said index train is displayed.

[0026] The 1st record medium of this invention does so the effect of excelling in the user-friendliness at the time of inputting data like the 1st equipment and the 1st method.

[0027] By the 2nd record medium of this invention displaying the screen for data inputs on an indicating equipment, and incorporating the input data from the input unit operated according to this screen for data inputs It is the record medium which recorded the computer program for setting up the various information for printing in a predetermined airline printer and in which computer reading is possible. (a) The function to memorize the array of the work habits obtained by dividing an activity required for a setup of said various information into two or more groups, and setting each group in order, (b) The function which displays the index train which shows the array of the memorized this work habits in said screen for data inputs, (c) about the function which chooses the index of arbitration from said index trains, and the index chosen by the (d) aforementioned function (c) About the index which shows the data input column for inputting said various information corresponding to the activity shown with this index, and is not chosen by said function (c) It is characterized by recording the computer program for making a computer realize the function which displays the viewing area which shows the contents of said various information already inputted from said data input column on the location which stands in a row against each index of said index train in said screen for data inputs.

[0028] The 2nd record medium of this invention does so the effect of excelling in the user-friendliness at the time of inputting data like the 2nd equipment and the 2nd method.

[0029]

[Embodiment of the Invention] In order to clarify further the configuration and operation of this invention explained above, the gestalt of implementation of this invention is explained based on an example below. Drawing 1 is the external view of the computer system which applies the 1st example of this invention. This computer system is equipped with a computer 10, and CRT display 12 and printer 14 as a peripheral device. A computer 10 is equipped with the main part 16 of a computer, a keyboard 18, and a mouse 20. In addition, the floppy disk drive 24 which reads the contents of the floppy disk 22 is carried in this main part 16 of a computer. A printer 14 is the so-called ink jet printer which forms a dot on the surface of a form by carrying out the regurgitation of the ink drop, and it performs image recording to a form by conveying a form in the direction of vertical scanning, making carriage reciprocate to a main scanning direction.

[0030] Drawing 2 is the block diagram showing the outline configuration of the hardware of a computer system. This main part 16 of a computer is equipped with ROM31, RAM32, the display image memory 33 and the mouse interface 34 which were mutually connected by the bus focusing on CPU30 as arithmetic and program control, a keyboard interface 35, FDC36, HDC37 and CRTC38, a printer interface 39, and I/O Port 40 so that it may illustrate.

[0031] ROM31 is read-only memory which memorizes the various programs built in. RAM32 is

memory which memorizes various data etc. and in which read-out and writing are possible. The display image memory 33 is memory which memorizes the image data of the image displayed on CRT display 12. A mouse interface 34 is an interface which manages the exchange of data with a mouse 20 etc. A keyboard interface 35 is an interface which manages the key input from a keyboard 18. FDC36 is a floppy disk controller which controls a floppy disk drive (FDD) 24. HDC37 is a hard disk controller which controls a hard disk drive (HDD) 41. CRTC38 is a CRT controller which controls the display of the image in CRT display 12 based on the display image data memorized by the display image memory 33. A printer interface 39 is an interface which controls the output of the data to a printer 14. It has the port of a serial output, and connects with the modem 44, and I/O Port 40 is connected to the dial-up line 46 through this modem 44. Through a modem 44, it connects with the external network and a computer 10 can be connected to the specific server 48.

[0032] In this computer system, when the operating system is memorized by HDD41 and a power supply is supplied to the main part 16 of a computer, it is loaded to the predetermined field of RAM32 according to the loader written in the boot block of HDD41. Moreover, the printer driver prepared for every model of printer 14 is beforehand stored in the floppy disk 22, is starting a predetermined install program and is installed in the main part 16 of a computer from a floppy disk drive 24. When HDD41 memorizes and a power supply is supplied to the main part 16 of a computer, this installed printer driver is included in an operating system, and is loaded to the predetermined field of RAM32.

[0033] When CPU30 performs this printer driver, the various requirements for a configuration of this invention are realized. In addition, although the software program of this printer driver is stored in a floppy disk 22 as mentioned above, it is good also as a configuration which changed to this and was stored in other pocket mold record media (portable mold record medium), such as CD-ROM, a magneto-optic disk, and an IC card. Moreover, the software program mentioned above downloads the program data offered through a network, and can obtain it from the specific server 48 connected to an external network by transmitting to RAM32 or HDD41.

[0034] The situation of printing by the computer system which has the hardware configuration explained above is explained below. Drawing 3 is the block diagram showing the situation of processing until printing is performed from the image information which the main part 16 of a computer treats. The image is displayed on CRT display 12 through a video driver 52 with the application program 51 which is operating inside the main part 16 of a computer, processing an image so that it may illustrate. Moreover, if this application program 51 publishes a printing official announcement, the printer driver 53 within the main part 16 of a computer will change image information into reception from an application program 51, and will have changed this into the signal which can print a printer 14.

[0035] In the example shown in drawing 3, inside a printer driver 53 As opposed to the rasterizer 54 which changes into the color information on a dot unit the image information which the application program 51 is treating, and the image information (gradation data) changed into the color information on a dot unit It has the color correction module 55 which performs color correction according to the property of coloring of a printer 14, and the halftone module 56 which generates the so-called image information of the halftone which expresses the concentration in a certain area by the existence of the ink in a dot unit from the image information after color correction was carried out. Moreover, the interior of a printer driver 53 is equipped with the information setting module 57 which sets up the various information for printing by the printer 14. As various information for printing, there is a thing about a form setup of the thing about a basic setup of printing, the size of a form, the printing directions, etc., such as a class of printing quality, color correction, and halftone, etc.

[0036] In addition, the information on the color correction set up by the information setting module 57 is sent to the color correction module 55, and the information on the class of halftone is sent to the halftone module 56. The information setting module 57 shows the image which shows the contents of the setup to CRT display 12 through a video driver 52. The interior of the information setting module 57 is equipped with 1st display and control section 57a, selection section 57b, and 2nd display and control section 57c as the principal part of this invention. Since actuation of each module except the information setting module 57 is a well-known thing, explanation is omitted in principle and explained below about

the information setting module 57.

[0038] Although a printer driver 53 can control various printings by the printer 14 by changing setup, an operator needs to perform such a setup beforehand. The information setting module 57 does the activity which sets up the various information for such printing. Here, it explains previously what kind of screen is displayed on CRT display 12 by actuation of this information setting module 57. In addition, taking the case of Windows 95 (trademark of Microsoft Corp.), it explains in this explanation as an operating system with which this printer driver operates.

[0038] An operator operates a computer 10 as follows first, and displays the dialog box which sets up the various information for printing on CRT display 12. That is, a "printer" window is opened by operating [start] -> [setup] -> [a printer]. Subsequently, the icon of the printer of the purpose on the window is double-clicked, and the window about the printer is opened. Then, [printer] -> [a property] is operated from the window, and the dialog box of a property which sets up the various information about the printer is displayed.

[0039] Drawing 4 is explanatory drawing which illustrates that dialog box DB when opening. Five kinds of cards, "information", "details", "a share", "easy printing", and a "utility", CD1, CD2, CD3, CD4, and CD5 are prepared for the dialog box DB so that it may illustrate. The "informational" card CD 1 is for setting up the information about printers, such as a comment of a printer. The card CD 2 of "details" is for setting up the detailed information about printers, such as a port where the printer is connected. The "shared" card CD 3 is for performing a setup for making a printer share through a network. The card CD 4 of "easy printing" is for setting up only fundamental information for the purpose of easy printing. The card CD 5 of a "utility" is for directing checking the current condition of printers, such as an ink residue. Either of these cards CD1-CD5 is chosen by the operator by operating a mouse 20, and is displayed on a dialog box DB.

The card of question: "a share" should teach in what kind of thing.

[0040] The condition that the card CD 4 of "easy printing" was opened is shown in drawing 4. The field DE for data display for displaying the field IE for data inputs and the current setting condition for receiving the data input from an operator on the card CD 4 of this "easy printing" is formed so that it may illustrate.

[0041] Four tags (it is equivalent to the "index" as used in the field of a claim) TG1-TG4 in which the 1st to 4th activity is shown are formed in the field IE for data inputs. These tags TG1-TG4 divide an activity required for a setup of easy printing into four groups, and each group is set in order. The 1st tag TG 1 shows the activity which chooses number of copies to which the 4th tag TG 4 prints the activity as which the 3rd tag TG 3 chooses the quality of printing for the activity which chooses the form with which the 2nd tag TG 2 sets to a printer the activity which checks manuscript size, respectively. In addition, the numeric characters 1-4 which show the number of the sequencing to each tags TG1-TG4 are specified.

[0042] Down the field IE for data inputs, the carbon buttons BT1 and BT2 for choosing the tag of 1 from tags TG1-TG4 are formed. If processing which will return the tag (the tag in this condition is hereafter called the tag in an active state) chosen in front in order if the upper carbon button BT1 is clicked is performed and the lower carbon button BT2 is clicked, processing which carries forward the tag in an active state to a degree in order will be performed. These tags TG1-TG4 serve as a switch which opens the dialog box for inputting the information in connection with the corresponding tag. That is, actuation of carbon buttons BT1 and BT2 selection of the 1st tag TG 1 displays the 1st dialog box DB1 corresponding to the 1st tag TG 1 just under the tag TG 1 so that it may illustrate.

[0043] Two data input column e1a, "manuscript size" and "page orientation", and e1b are prepared in the 1st dialog box DB1 as a data input column which receives the data input from an operator. Data input column e1a of "manuscript size" sets up the size of the manuscript drawn up by computer 10, and is set up out of lists, such as "A4 210x297mm" and "B5 182x257mm." Data input column e1b of "page orientation" shows the direction of printing in a manuscript, and "length" or "width" is set up.

[0044] On the other hand, if the 2nd tag TG 2 is chosen by actuation of carbon buttons BT1 and BT2, as shown in drawing 5, 2nd dialog box DB2 corresponding to the 2nd tag TG 2 will be displayed by it just

under the tag TG 2.

[0045] Two data input column e2a and e2bs of a "paper size" and a "form class" are prepared in 2nd dialog box DB2 as a data input column which receives the data input from an operator. what sets up the paper size which data input column e2a of a "paper size" uses -- it is -- for example, "A4 210x297mm" and "B5 182x257mm" -- "\*\*\*\*\* 120x235mm" -- it is set up out of lists, such as postcard 100x147mm." Data input column e2b of a "form class" sets up the class of form, and is set up out of lists, such as a "regular paper", "paper only for super fine one", and "exclusive glossy paper."

[0046] Moreover, if the 3rd tag TG 3 is chosen by actuation of carbon buttons BT1 and BT2, as shown in drawing 6, the 3rd dialog box DB3 corresponding to the 3rd tag TG 3 will be displayed by it just under the tag TG 3.

[0047] The data input column e3 of "mode setting" is formed in the 3rd dialog box DB3 as a data input column which receives the data input from an operator. The data input column e3 of "mode setting" is constituted by carbon button e3a of a slide lever form, and, thereby, it is specified in what quality printing by the printer 14 is performed. The "quick" alphabetic character is clearly shown as "beautiful" by the both ends of the slide lever displayed on details as carbon button e3a, and either of "being quick" can be chosen as them by DORAKKU [ the portion of a slide lever / with a mouse 20 ], saying "It is beautiful."

[0048] In addition, although the alternative by this carbon button e3a is the parameter value [ "be / it / beautiful" ] of "being quick" as mentioned above, this is a thing when the "regular paper" is set as input column e2b of the "form class" of dialog box DB2. On the other hand, when other form classes are set as input column e2b of a "form class", other two or more parameter value and two parameter value of the arbitration specifically chosen from among "more beautiful", being "beautiful", being a "standard", and "being quick" are displayed. In addition, it means printing here by the printing technique which gave priority to the print speed over printing quality with "it is quick", and is this kind of the parameter value as which "it is quick" determines the degree of printing quality.

[0049] If the 4th tag TG 4 is chosen by actuation of carbon buttons BT1 and BT2, as shown in drawing 7, the 4th dialog box DB4 corresponding to the 4th tag TG 4 will be displayed by it just under the tag TG 4.

[0050] The data input column e4 of "number of copies" is formed in the 4th dialog box DB4 as a data input column which receives the data input from an operator. The data input column e4 of "number of copies" sets up number of copies to print.

[0051] The field DE for data display which displays "a current setting condition" is established in the right-hand side of carbon buttons BT1 and BT2, and the contents of the various information set up by the 1st thru/or the 4th dialog box DB1-DB4 mentioned above are displayed. Specifically, the data of "manuscript size" "paper-size"/"a form class" set up by the 1st dialog box DB1, the data of the "mode setting" set up by the 3rd dialog box DB3, and the data of "number of copies" set up by the 4th dialog box DB4 are displayed, respectively. [ which was set up by the data of / "page orientation" and 2nd dialog box DB2 ] These data is divided into each group and arranged following a character string called the "manuscript", a "form", the "quality", and "number of copies" which simplified and show the display of tags TG1-TG4. In addition, the mark relevant to the semantics of these character strings is displayed on the before [ character strings, such as a "manuscript", a "form", "quality", and "number of copies" ] side (inside of drawing, left-hand side). The mark which expresses a computer since a "manuscript" is drawn up by computer is displayed, the mark to which a "form" expresses a form is displayed, since "quality" is the quality of printing by the printer 14, the mark showing a printer is displayed and the mark to which "number of copies" expresses number of copies is displayed.

[0052] A screen display to CRT display 12 mentioned above is performed because CPU30 processes the manipulation routine of the information setting module 57 of a printer driver 53. The manipulation routine of this information setting module 57 is explained below.

[0053] Drawing 8 is a flow chart which shows the easy printing setting manipulation routine of the manipulation routines of the information setting module 57. This easy printing setting manipulation routine is performed when the card CD 4 of "easy printing" is clicked with a mouse 20 out of five kinds

of cards CD1-CD5 displayed on a dialog box DB.

[0054] If processing is started, CPU30 will perform the manipulation routine of the card display which displays the image data which shows the card CD 4 of "easy printing" on CRT display 12, so that it may illustrate (step S100). Then, in response to the actuation of a data input using the keyboard 18 and mouse 20 by the operator who looked at the display screen of the CRT display 12, various data is inputted (step S200) and it memorizes to RAM32 by considering the inputted various data as the easy printed information file PFL (referring to drawing 12) (step S300).

[0055] After activation of step S220, it waits for click actuation of "O.K." in the display screen of drawing 4 by the operator, escapes for a "return", and processing is ended.

[0056] Drawing 9 is a flow chart which shows the card display-processing routine performed at step S100. Repeat activation of this manipulation routine is carried out for every predetermined time. If processing is started, CPU30 will read the base of the card CD 4 of an "easy setup", and becoming base image data Dbase from RAM32 first (step S110), and will transmit the base image data Dbase to the display image memory 33, so that it may illustrate (step S120). Here, base image data Dbase is the image data showing the image excluding the portion of the field IE for data inputs, and the field DE for data display from the image of the card CD 4 shown by drawing 4, and an example of this image is shown in drawing 10.

[0057] It returns to drawing 9, and subsequently to a value 0, CPU30 sets Variable i (i is an integer) (step S130), and only a value 1 increments the variable i after that (step S140). Then, processing which CPU30 uses the variable i as a search key, and searches the work-habits table TBL1 is performed (step S150).

[0058] Drawing 11 is explanatory drawing showing the data structure of the work-habits table TBL1. The work-habits table TBL1 is data of the tabular format memorized by the printer driver on RAM32, and the array of ON/OFF of a switch (1: ON, 0:OFF) is stored in eye the 1st train for the array of character strings, such as a "manuscript", a "form", "quality", and "number of copies", at eye the 2nd train, respectively so that it may illustrate. The data Ta of eye the 1st train was obtained by dividing an activity required for an easy setup of printing into four groups, and setting each group in order, and supports the array of the tags TG1-TG4 mentioned above. The data Tb of eye the 2nd train is updated by processing of another routine which is performed [ ON of a switch / / distinguishes more off and ] by CPU30 and which is not illustrated. [ whether the tag in an active state is which tag, and ] That is, if according to processing of the another routine the data Tb which will serve as a value 1 if a carbon button BT1 is clicked is shifted to the line on one and a carbon button BT2 is clicked, the data Tb used as a value 1 will be shifted to the line under one.

[0059] At step S150, processing which extracts the data Ta (i) and Tb of the i-th line (i) is carried out to details by searching Variable i for the work-habits table TBL1 of such a configuration as a search key. Subsequently, CPU30 reads the image data of the tag corresponding to the data Ta (i) which carried out [ above-mentioned ] the extract from the image managed table TBL2, and processing which writes the image data in the portion of the field IE for data inputs of the display image memory 33 is performed (step S160).

[0060] Drawing 12 is explanatory drawing showing the data structure of the image managed table TBL2. So that the image managed table TBL2 may be data of the tabular format memorized by the printer driver on RAM32 and it may illustrate The array of character strings, such as a "manuscript" as work habits, a "form", "quality", and "number of copies", is stored in eye the 1st train. The file names Pic01-Pic04 of the image data which expresses the image of the tag corresponding to each work habits to eye the 2nd train are stored. The file names Pic11-Pic14 of the image data which expresses the image of the dialog box corresponding to each work habits to eye the 3rd train are stored, and the file names Pic21-Pic24 of the image data which expresses the image of the mark corresponding to each work habits to eye the 4th train are stored. In addition, although the images Pic01-Pic04 shown by image data, Pic11-Pic14, and Pic21-Pic24 are specified in drawing 12, only the file name mentioned above is actually stored in the image managed table TBL2. By reading the image data based on this file name from a printer driver (HDD41 or RAM32), an image as shown all over drawing can be obtained.

[0061] At step S160, in details, the "work habits" which is in agreement with the data Ta (i) extracted at step S150 is searched, the file names Pic01-Pic04 of the "tag image" of the line of those "work habits" are chosen, processing which reads the image data based on this file name from a printer driver is performed, and that image data is written in the portion of the field IE for data inputs of the display image memory 33 after that.

[0062] Then, CPU30 distinguishes whether the contents of the data Tb (i) extracted at step S150 are values 1 (step S170). This distinction distinguishes whether the tag of "work habits" shown by Data Ta (i) is in an active state. Here, if it is distinguished that Data Tb (i) is a value 1, processing will be advanced to step S180. At step S180, the file names Pic11-Pic14 of the "dialog box image" of the line of the "work habits" (it is the same as the "work habits" searched with step S160) which is in agreement with the data Ta at this time (i) are chosen. Next, processing which reads the image data based on this file name from a printer driver is performed, and processing which writes that image data in the portion of the field IE for data inputs of the display image memory 33 is performed after that. In addition, the writing to the display image memory 33 of image data is made as [ stand / immediately under the image of the image data of the tag written in at step S160 / in a row / the image of the image data of this dialog box ].

[0063] CPU30 distinguishes whether Variables i are four or more values after activation of step S180 (step S190). Here, when Variable i was smaller than the value 4 and it is distinguished, processing is returned to step S140. At step S140, the increment of the variable i will be carried out only for a value 1, and repeat activation of the processing of step S160 thru/or step S190 will be carried out using this variable i. In addition, the writing of the image data based on step S160 is made as [ stand / immediately under the image of the image data written in by step S160 or S180 until now / in a row / the image of this image data ].

[0064] On the other hand, at step S190, if it is distinguished that Variable i became four or more values, processing of the repeat of step S160 thru/or step S190 will be finished, and processing will be advanced to step S192. That is, in order of a "manuscript", a "form", "quality", and "number of copies", the image data of a tag will be arranged in order in the display image memory 33, especially about the tag in an active state, it will stand in a row in the image data of the tag, and the image data of the dialog box about the tag will be written in just under by processing of the repeat of the old above-mentioned step S160 thru/or step S190. In addition, about the boundary of the image data of the above-mentioned tag, and the image data of a dialog box, as shown in drawing 4 thru/or drawing 7, it is considering as the configuration shown with a dashed line. Moreover, the portion of the above-mentioned tag and the portion of a dialog box are good also as a configuration which is visible to one field without changing to this configuration and displaying anything about the above-mentioned boundary.

[0065] At step S192, CPU30 performs processing which writes the data of the easy printed information file memorized at step S300 of drawing 8 in the portion of the field DE for data display of the display image memory 33. Drawing 13 is explanatory drawing showing the data structure of the above-mentioned easy printed information file PFL. The easy printed information file PFL consists of the fields f1, f2, f3, and f4 of a "manuscript", a "form", "quality", and "number of copies" so that it may illustrate. The field f1 of the above "a manuscript" consists of field f1a of "manuscript size", and field f1b of "page orientation." The field f2 of a "form" consists of field f2bs of field f2a of a "paper size", and a "form class."

[0066] The data inputted from data input column e1a of the "manuscript size" on the 1st dialog box DB1 and "page orientation" and e1b is stored in field f1a of "manuscript size" and "page orientation", and f1b, respectively. The data inputted from data input column e2a of the "paper size" on 2nd dialog box DB2 and a "form class" and e2b is stored in field f2a of a "paper size" and a "form class", and f2b, respectively. The data inputted from the data input column e3 of the "mode setting" on the 3rd dialog box DB3 is stored in the field f3 of "quality." The data inputted from the data input column e4 of "number of copies" on the 4th dialog box DB4 is stored in the field f4 of "number of copies."

[0067] At step S192, the data of all the fields f1-f4 of the easy printed information file PFL of the above-mentioned configuration is written in the portion of the field DE for data display of the display image

memory 33. In addition, by searching the image managed table TBL2 in the case of writing The file names Pic21, Pic22, Pic23, and Pic24 of the mark image corresponding to the name (a "manuscript", a "form", "quality", or "number of copies") of each fields f1, f2, f3, and f4 are chosen. The image data of the mark based on this selected file name is read from a printer driver, and both the images of these marks are also written in.

[0068] Then, based on the display image data memorized by the display image memory 33, the display of the image in CRT display 12 is controlled by CRTC38 (step S194). The image of the card CD 4 of "easy printing" with which the alphabetic character and the pattern were buried to the field IE for data inputs as shown in this result, for example, drawing 4, thru/or drawing 7, and the field DE for data display will be displayed on CRT display 12. After activation of step S194, it escapes for a "return" and this processing is once ended.

[0069] In this way, using the card CD 4 of "easy printing" displayed on CRT display 12, after that, as mentioned above, the activity of a data input will be made (step S200 of drawing 8).

[0070] The tags TG1-TG4 in which the array of the work habits obtained by according to the above-mentioned easy printing setting manipulation routine dividing an activity required for a setup of easy printing into four groups, and setting each group in order as explained in full detail above is shown. The data input is made possible, as it displays on the card CD 4 of "easy printing" and the dialog box which stands in a row to the tag, and is equipped with the data input column just under about the tag which is in an active state among those tags TG1-TG4 is opened.

[0071] According to this configuration, a user can grasp work habits required for a setup of easy printing by seeing the array of tags TG1-TG4. For this reason, a user can avoid not inputting the information to set up or mistaking the item of the information to set up by clicking carbon buttons BT1 and BT2, and performing a data input by choosing tags TG1-TG4 in order from the data input column of the dialog box in connection with that tag. Therefore, according to this example, what produces redo of a data input to a user decreases, and the effect of excelling in the user-friendliness at the time of inputting data is done so.

[0072] Moreover, in this example, being able to prevent a failure of the information to set up to input from the ability to choose tags TG1-TG4 in order from the beginning to the last certainly only by clicking carbon buttons BT1 and BT2.

[0073] Furthermore, since the numeric character of 1 to 4 which shows the ranking of sequencing of work habits to a tag is displayed, an operator can grasp the sequence certainly.

[0074] Moreover, a setup of the various information which needs the array of tags TG1-TG4 in this example for printing from it being what shows the work habits which include a "manuscript", a "form", and "quality" at least is possible.

[0075] Furthermore, in this example, since all the data inputted from the column of tags TG1-TG4 has composition by which it is indicated by list to the field DE for data display, the present contents of a setting can be known also about tags other than the tag chosen now. Therefore, the mistake of a data input can be known easily and it excels in user-friendliness more for the operator.

[0076] Next, the modification of the 1st example of the above is explained. It consisted of said 1st example so that a dialog box equipped with the data input column might open just under the tag chosen with carbon buttons BT1 and BT2, but as it changes to this and is shown in drawing 14, it is good also as a configuration which a dialog box opens on the right of a tag. It consists of examples of drawing 14 so that the dialog box DB11 of the magnitude of the same degree may open with the whole tag train on the right of Tag TG. Data input column e11a of a "feed class" and data input column e11b of "feed size" are prepared in this dialog box DB11 as a data input column in connection with a "form." furthermore -- both -- the image showing the printer in which the contents of data input column e11a and e11b are shown in a pictorial map, and a form is displayed on pattern viewing-area e11c.

[0077] According to this configuration, the display of a dialog box DB11 of a tag train is attained, without redrawing.

[0078] Moreover, although considered as the configuration as which drawing of the field DE for a tab, a dialog box, and data display displays the image data of these images on the display image memory 33,

and displays the contents of the display image memory 33 on CRT display 12 sequential writing and after that in said 1st example, whenever it changes to this and writes each image data in the display image memory 33; it is good also as a configuration which displays the contents of the display image memory 33 on CRT display 12.

[0079] Next, the 2nd example of this invention is explained. Although dialog boxes DB1-DB4 were opened and being considered as the condition in which a data input is possible in said 1st example about the tags TG1-TG4 which changed into the selection condition with carbon buttons BT1 and BT2, about tags other than the tag which changed into the above-mentioned selection condition, it is considered as the configuration as which the existing set point is displayed in the field of that tag further in this 2nd example. Hereafter, this configuration is explained to details.

[0080] Drawing 15 is explanatory drawing which illustrates the dialog box DB20 which the card CD 4 of "easy printing" in the 2nd example opened. As compared with drawing 4 of the 1st example, the structures of tags TG21-TG24 differ so that it may illustrate. The character string which simplified explanation of an activity like a "manuscript", a "form", "quality", and "number of copies" is describing these TG21-TG24, and the field e21 for information displays is formed behind that character string (right-hand side). Data [ finishing / the above-mentioned input ] is displayed on this field e21 for information displays. In addition, about other portions, it is the same as that of the 1st example.

[0081] Drawing 16 is explanatory drawing showing the data structure of the image managed table TBL2 in the 2nd example. As compared with drawing 12 of the 1st example, the image data Pic31-Pic34 of a "tag image" is different, and it is the same about the image data Pic11-Pic14 of other "dialog box images" and a "mark image", and Pic21-Pic24 so that it may illustrate.

[0082] Drawing 17 is a flow chart which shows the card display-processing routine performed by CPU in the 2nd example. The point of performing processing of step S182 when negative distinction is carried out at step S170 as compared with drawing 9 of the 1st example so that it may illustrate, and the point that processing of step S192 was deleted are different, and it is the same about other steps. At step S182, the data of the item corresponding to Data Ta (i) is read from the easy printed information file memorized at step S300 of drawing 8, and processing which writes these data in the above-mentioned field e21 for information displays is performed. It deleted about step S192 of the 1st example, and considered as the configuration which does not display the field DE for data display.

[0083] The image of the card CD 4 of "easy printing" as shown in drawing 15 will be displayed on CRT display 12 by the above-mentioned configuration. According to this configuration, it is avoidable not to input the information to set up like the 1st example, or to mistake the item of the information to set up. Therefore, according to this example, what produces redo of a data input to a user decreases, and the effect of excelling in the user-friendliness at the time of inputting data is done so.

[0084] Furthermore, about the tags TG1-TG4 used as an active state, since the contents of the already inputted information can be known from the field e21 for information displays, it becomes possible to get to know the mistake of a data input in an early phase. Therefore, according to this 2nd example, what produces redo of a data input to a user decreases, and the effect of excelling in the user-friendliness at the time of inputting data also does so.

[0085] Next, the 3rd example of this invention is explained. Drawing 18 is explanatory drawing which illustrates the dialog box 30 by which the card CD 34 of a "setup" was opened in the 3rd example.

[0086] As shown in drawing 18, three tags (it is equivalent to the "index" as used in the field of a claim) TG31-TG33 in which the 1st to 3rd activity is shown are formed. These tags TG31-TG33 divide an activity required for a setup of printing into three groups, each group is set in order, and the 1st tag TG 31 is the alphabetic character [ activity / which checks a fundamental setup of printing ] "basic setup." The 2nd tag TG 32 is the alphabetic character [ activity / which chooses the form set to a printer ] "form setup", and the 3rd tag TG 33 shows the activity which checks the layout of printing in the alphabetic character "layout", respectively. In addition, the numeric characters 1-3 which show the number of the sequencing to each tags TG31-TG33 are specified.

[0087] The above-mentioned tags TG31-TG33 are carrying out the role of the switch which will be in an active condition by actuation of the click by a user's mouse 20, and if the tag TG 31 of a "basic setup" is

clicked, the 1st dialog box DB31 corresponding to the tag TG 31 will be displayed just under the tag TG 31 so that it may illustrate.

[0088] the object for data display which shows three data input column e31a, e31b, e31c, and the current established states of "mode setting", a "form class", and "ink" as a data input column which receives the data input from an operator in the 1st dialog box DB31 -- it has field e31d. About data input column e31a, e31b, and e31c, an entry of data is made by actuation of the keyboard 18 by the user, and a mouse 20. In addition, data input column e31a of "mode setting" can be equipped with carbon button e31a1 of a slide lever form, and manuscript data input column e31a2, and can input the class of manuscript for the quality of printing by carbon button e31a1 by manuscript data input column e31a2, respectively. That is, in this 1st dialog box DB31, an information setup about the activity in connection with a "manuscript" and a "form" by carbon button e31a1 and manuscript data input column e31a2 is possible.

[0089] About the tags TG32 and TG33 which are not in the active condition on the other hand, the fields id2 and id3 for information displays are formed behind the character string (right-hand side) not only like the alphabetic character of "a form setup" and a "layout" but like the 2nd example mentioned above. Data [ finishing / an input ] is displayed on this field e21 for information displays from the dialog box opened from this tag.

[0090] Drawing 19 is explanatory drawing showing the card CD 34 of a "setup" with which the 2nd tag TG 32 changed into the active condition. If the tag TG 32 of a "form setup" is clicked so that it may illustrate, the 2nd dialog box DB32 corresponding to the tag TG 32 will be displayed just under the tag TG 32 so that it may illustrate.

[0091] Data input column e32a which sets up a "paper size", "printing number of copies", the "printing direction", and "the field which can be printed", respectively, e32b, e32c, e32d, and display column e32e that shows the three-dimension stereoscopic model of a printer 14 with a plane image are prepared in the 2nd dialog box DB32 as a data input column which receives the data input from an operator.

[0092] It returns to drawing 18 and the existing set point of data input column e32a of the 2nd dialog box DB32 of the above, e32b, e32c, and e32d is displayed on the field id2 for information displays established in the 2nd tag TG 32. In addition, it has composition which also displays the marks m21-mk24 which image-ized these set points symbolically with the above-mentioned existing set point on this field id2 for information displays.

[0093] Drawing 20 is explanatory drawing showing the card CD 34 of a "setup" with which the 3rd tag TG 33 changed into the active condition. If the tag TG 33 of a "layout" is clicked so that it may illustrate, the 3rd dialog box DB33 corresponding to the tag TG 33 will be displayed just under the tag TG 33 so that it may illustrate.

[0094] Display column e33d which indicates the layout of a form to be data input column e33a, e33b, and e33c which set up "expansion/contraction", "allotment", and a "stamp mark", respectively with a plane image as a data input column which receives the data input from an operator is prepared in the 3rd dialog box DB33.

[0095] It returns to drawing 18 and the existing set point of data input column e33a of the 3rd dialog box DB33 of the above, e33b, and e33c is displayed on the field id3 for information displays established in the 3rd tag TG 33. In addition, it has composition which also displays the marks m31-m33 which image-ized these set points symbolically with the above-mentioned existing set point on this field id3 for information displays.

[0096] moreover, it is shown in drawing 19 -- as -- The existing set point of data input column e31a of the 1st dialog box DB31 of the above, e31b, and e31c is displayed on the field id1 for information displays established in the 1st tag TG 31. In addition, it has composition which also displays the marks m11-m13 which image-ized these set points symbolically with the above-mentioned existing set point on this field id3 for information displays.

[0097] In the 3rd example constituted as mentioned above, a user can grasp work habits required for a setup by seeing the array of tags TG31-TG33. For this reason, it is avoidable not to input the information to set up like the 1st example and the 2nd example, or to mistake the item of the information to set up. Moreover, like the 2nd example, about the tags TG31-TG33 used as an active state, since the

existing contents of a setting can be known from the fields id1-id3 for information displays, the mistake of a data input can be known in an early phase.

[0098] Furthermore, in this 3rd example, about an inactive tag, since the marks m11-m33 which image-ized the set point symbolically with the above-mentioned existing set point are considered as the configuration displayed in a tag, an operator can grasp a default easily as an image. The effect of being very user-friendly is done so for an operator these results.

[0099] As mentioned above, although the various examples of this invention have been explained in full detail, this invention is not limited to such an example at all, and can be carried out in the mode which becomes various in the range which does not deviate from the summary of this invention.

[0100] (1) For example, although applied to the computer system by which the printer 14 was connected to a local computer 10 and a local direct cable in said example, it is good also as a configuration which applies the printer which changed to this and was connected to the server on LAN to the computer system shared between two or more computers.

[0101] (2) Or it is good also as a configuration applied to the computer system which controls the printer connected to the server connected by the Internet by computer through the Internet.

[0102] (3) Although the printer 14 was applied to the computer system connected to the computer 10 in said example, it is good also as a configuration applied to the facsimile apparatus which changes to this and contains a print station.

---

[Translation done.]

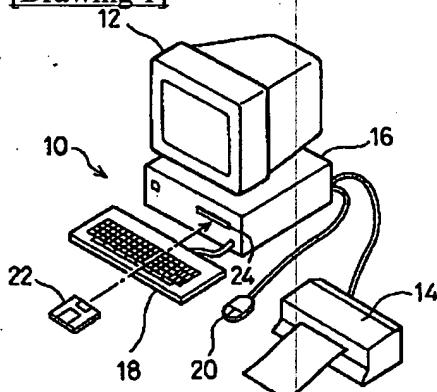
## \* NOTICE

Japan Patent Office is not responsible for any damages caused by the use of this translation.

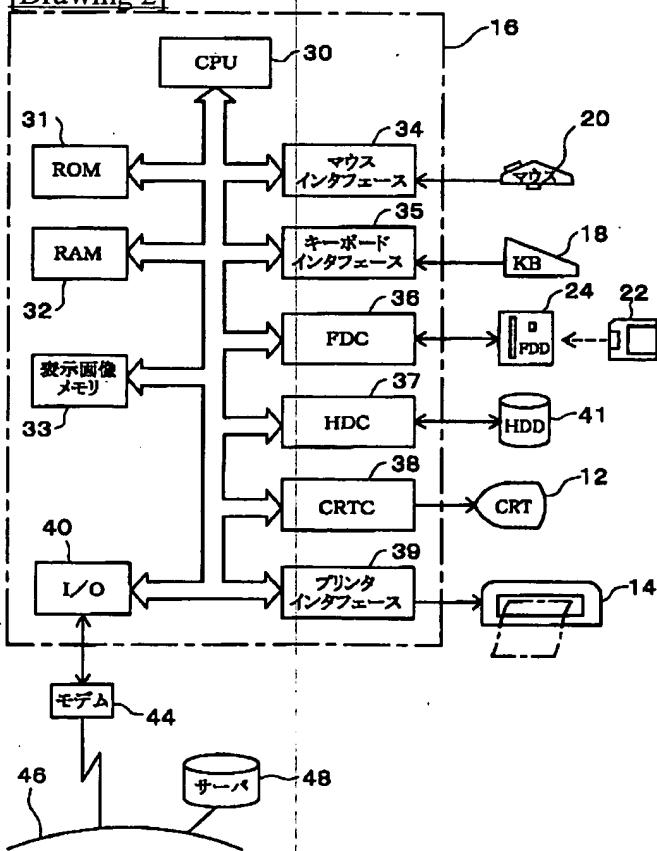
1. This document has been translated by computer. So the translation may not reflect the original precisely.
2. \*\*\*\* shows the word which can not be translated.
3. In the drawings, any words are not translated.

## DRAWINGS

## [Drawing 1]



## [Drawing 2]



h

g cg b

eb cg e e

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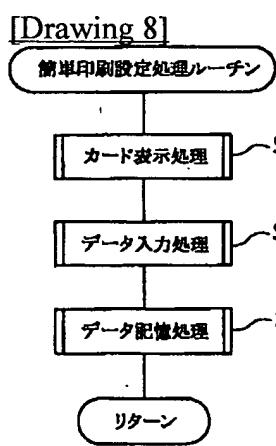
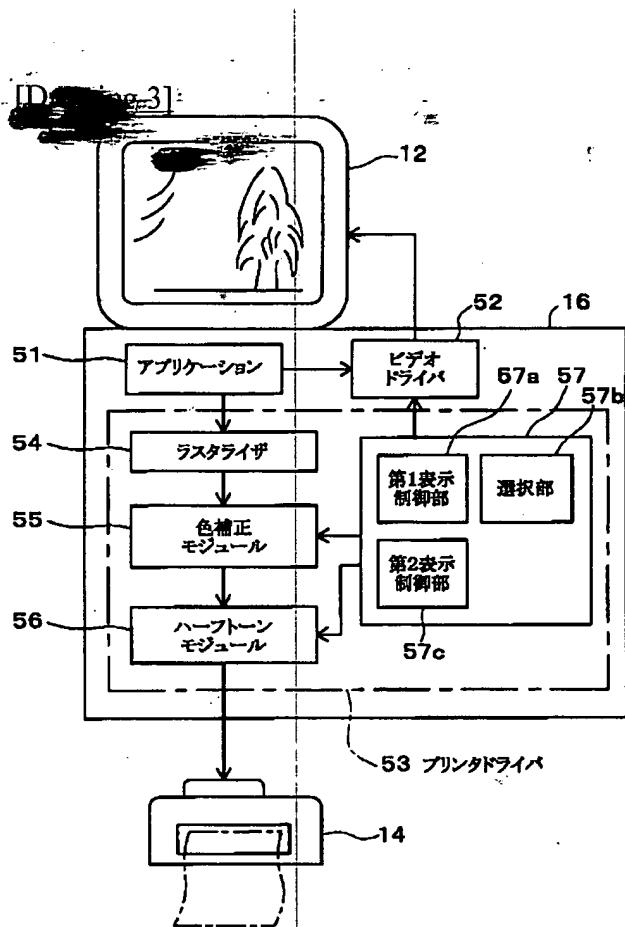
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[Drawing 11]

TBL1 作業手順テーブル

Ta	Tb
原 稿	1
用 紙	0
品 質	0
部 数	0

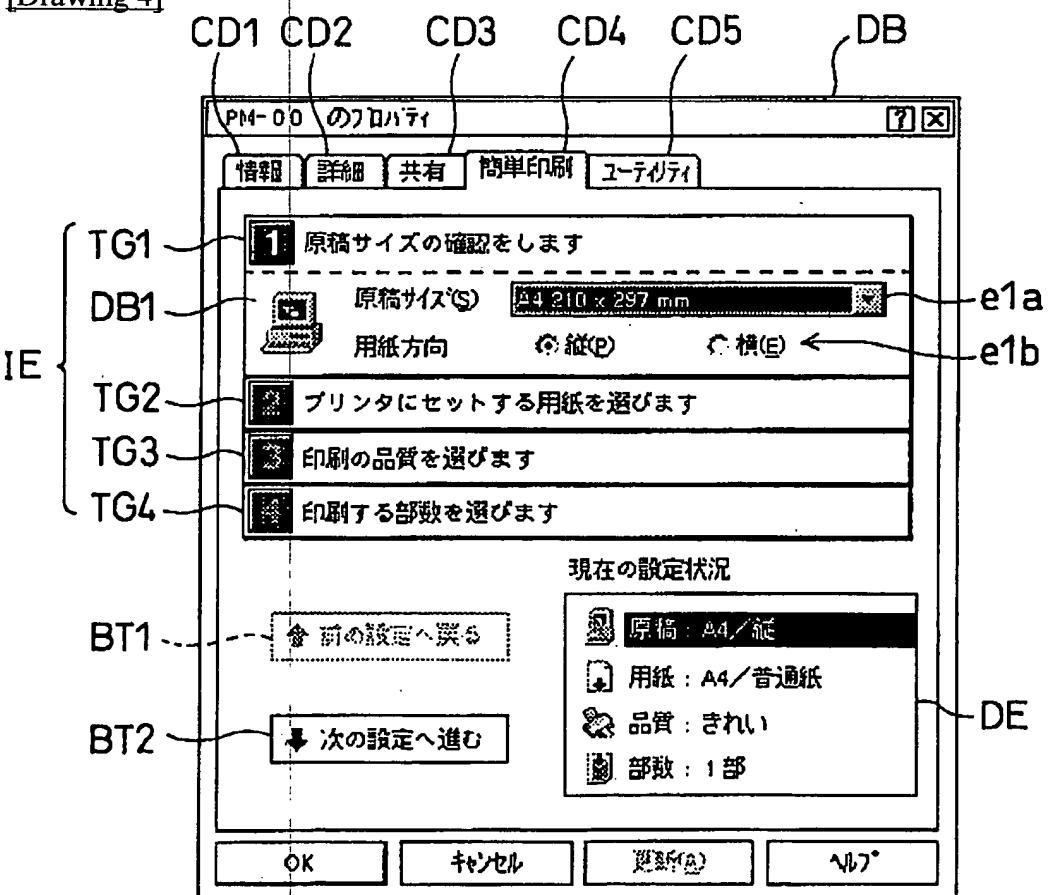
[Drawing 13]

PFL 簡単印刷情報ファイル

f1	f2	f3	f4
原稿	用紙		
原稿サイズ	用紙方向	用紙サイズ	用紙種類

f1a f1b f2a f2b

[Drawing 4]

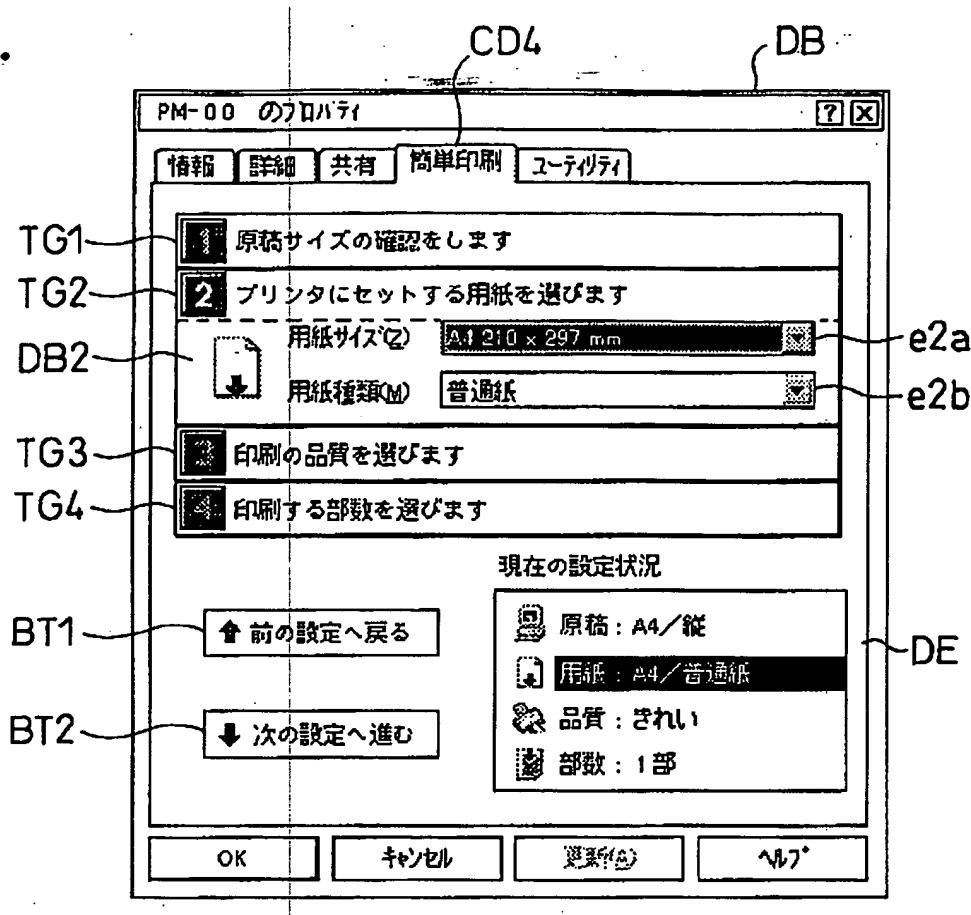


[Drawing 5]

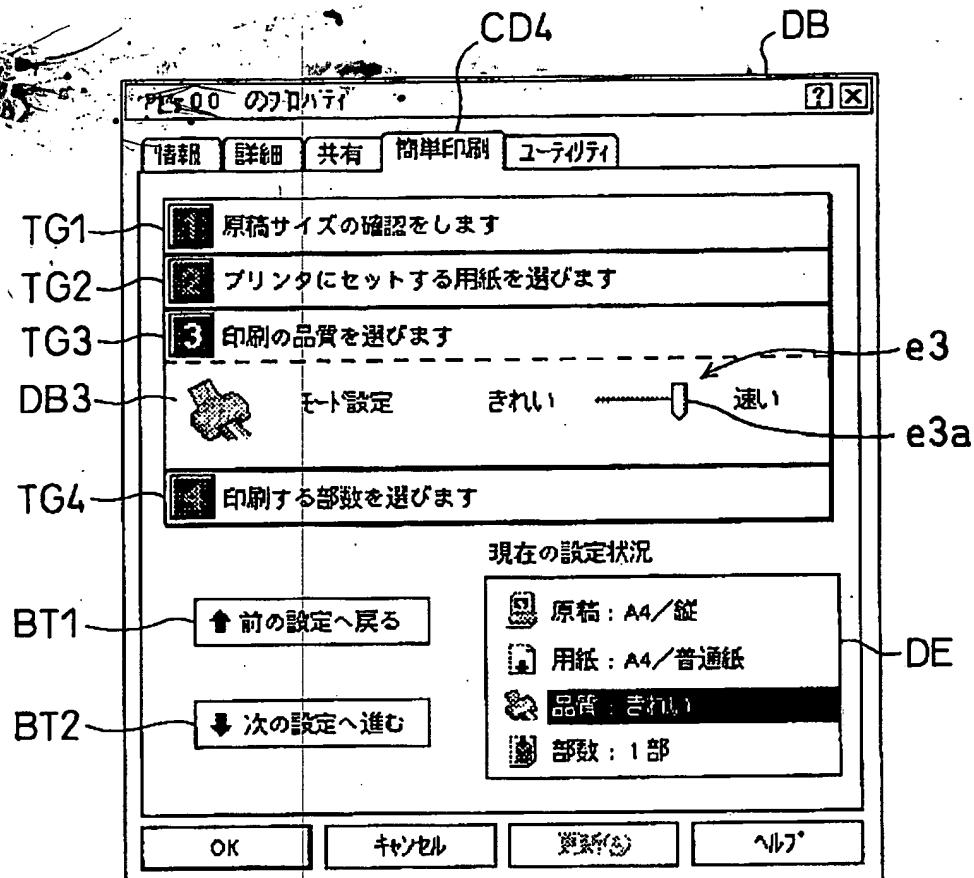
h

g c g b

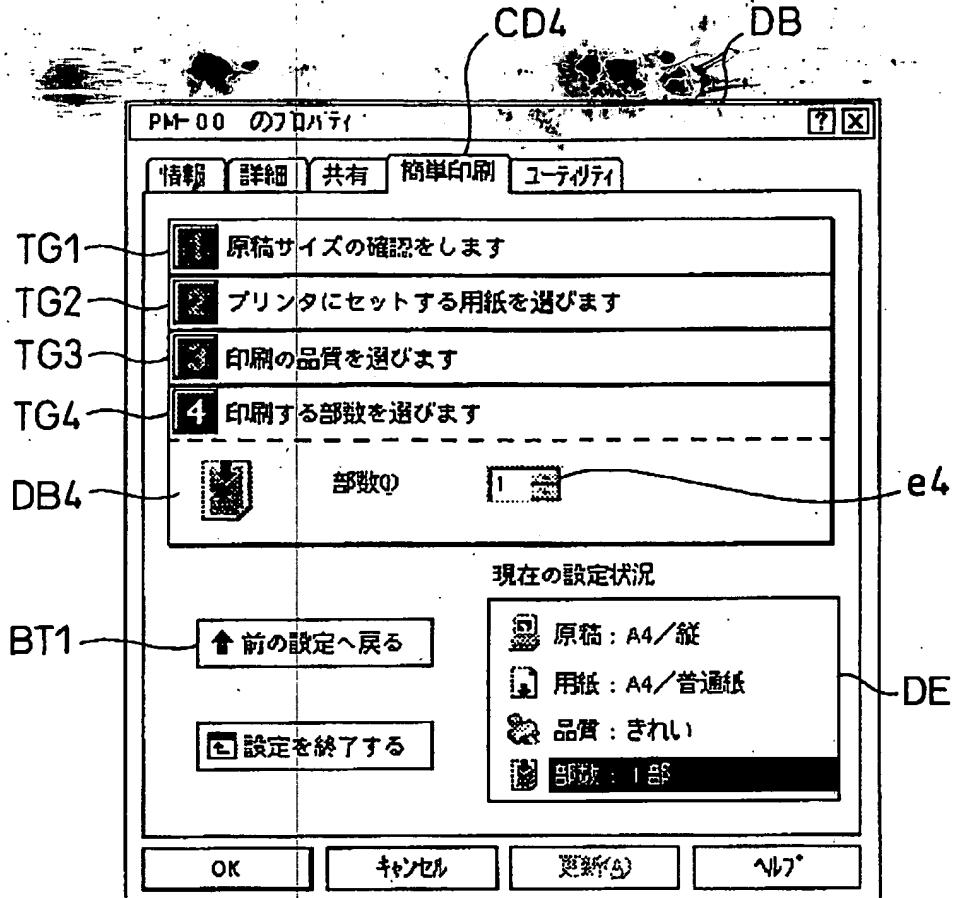
e b c g e e



[Drawing 6]



[Drawing 7]

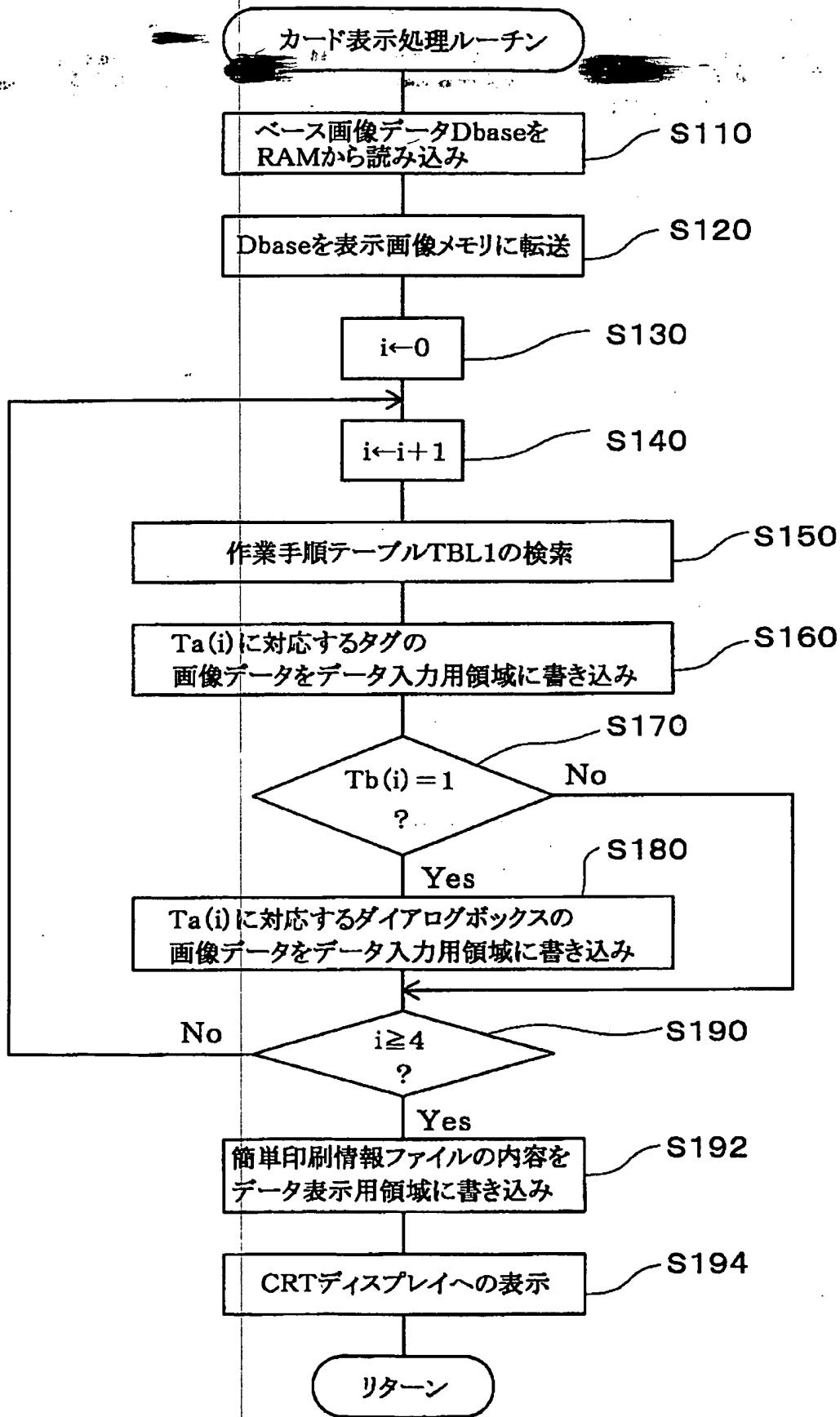


[Drawing 9]

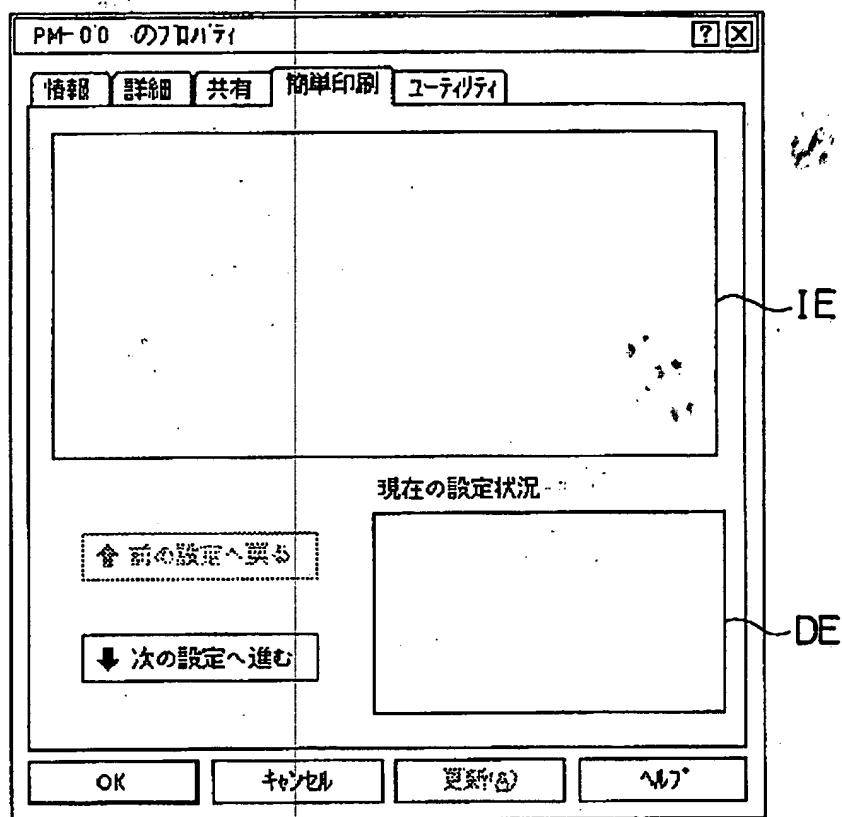
h

g cg b

eb cg e e

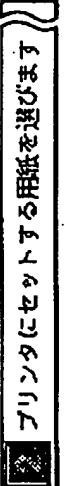
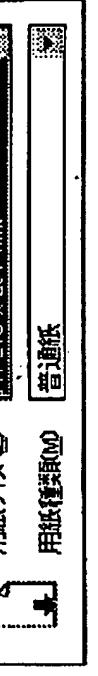
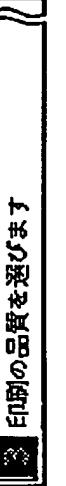
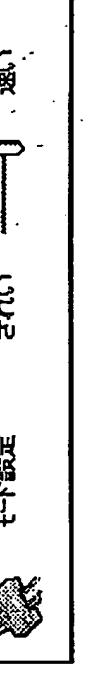
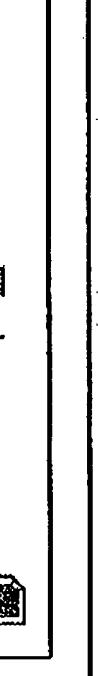


[Drawing 10]

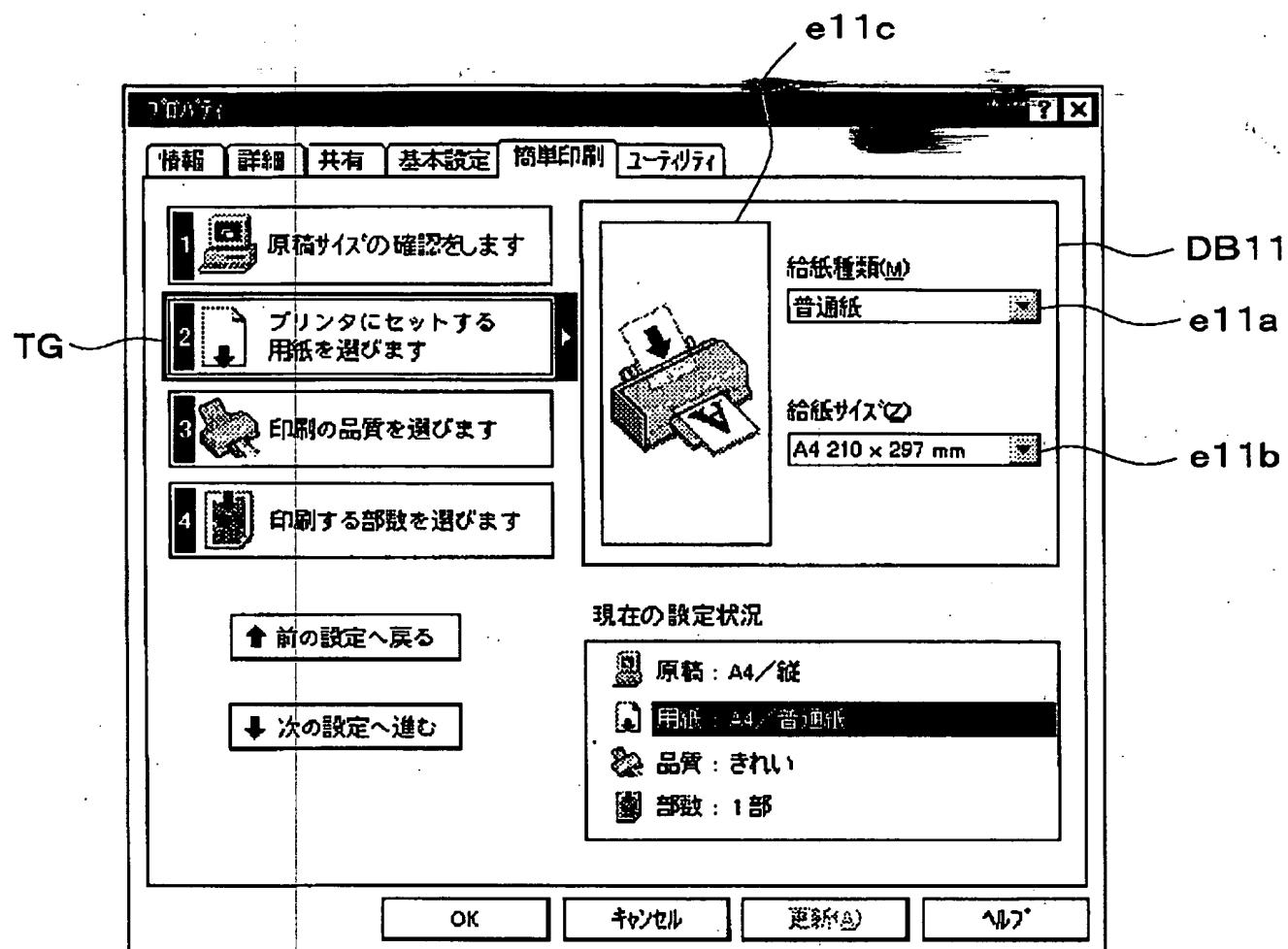


[Drawing 12]

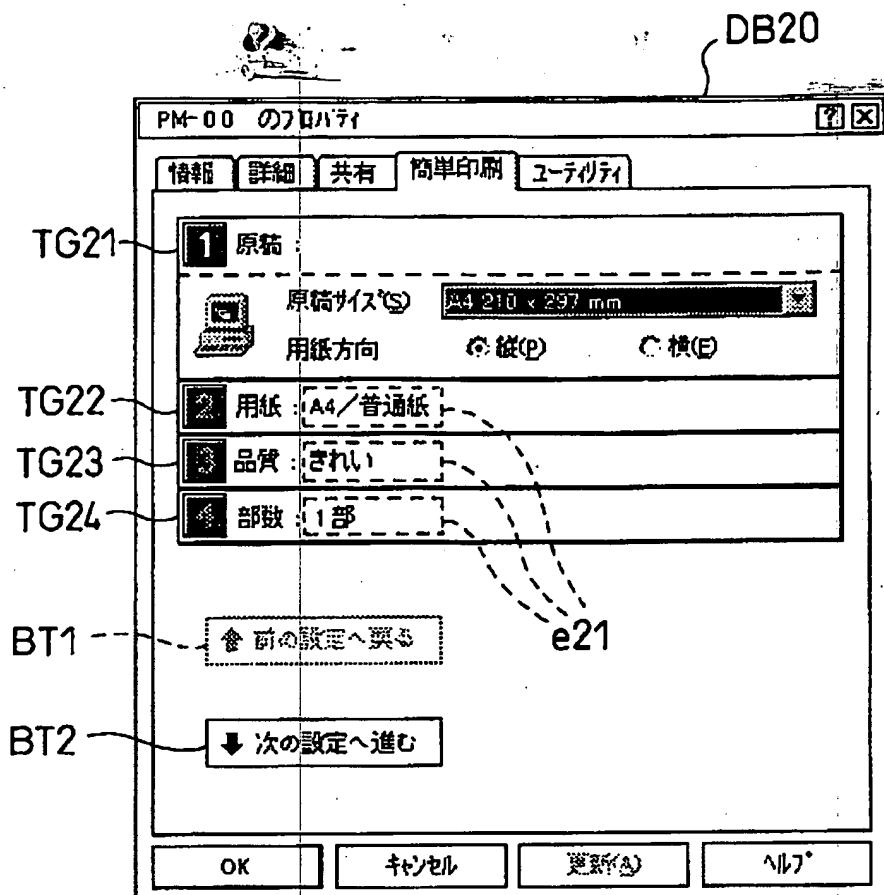
## ✓ TBL2 画像管理テーブル

作業手順	タグ画像	ダイアログボックス画像	マーク画像
原稿	Pic 01	Pic 11	Pic 21
	 <b>1 原稿サイズの確認をします</b>	 <b>原稿サイズ(S) 210 x 297 mm</b> <input checked="" type="checkbox"/> 用紙方向 ◎ 縦(P) <input type="checkbox"/> 横(E)	 <b>2</b>
用紙	Pic 02	Pic 12	Pic 22
	 <b>プリントにセットする用紙を選びます</b>	 <b>用紙サイズ(E) 210 x 297 mm</b> <input checked="" type="checkbox"/> 用紙種類(M) <b>普通紙</b>	 <b>3</b>
品質	Pic 03	Pic 13	Pic 23
	 <b>印刷の品質を選びます</b>	 <b>モード設定</b> <input checked="" type="checkbox"/> <b>きれい</b> <input type="checkbox"/> <b>速い</b>	 <b>4</b>
部数	Pic 04	Pic 14	Pic 24
	 <b>印刷する部数を選びます</b>	 <b>部数(O)</b> <input type="checkbox"/> <b>1</b>	 <b>5</b>

[Drawing 14]



[Drawing 15]

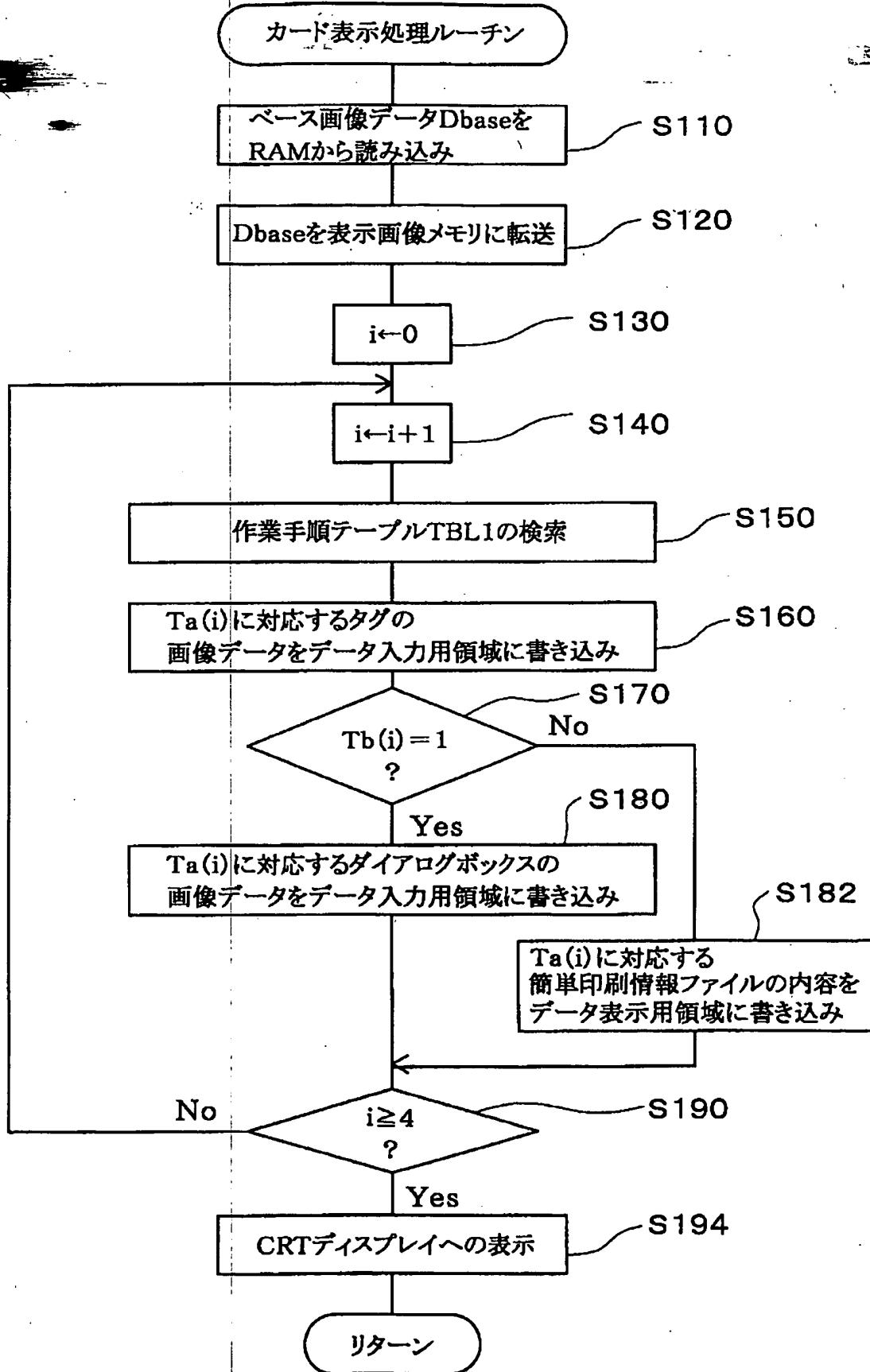


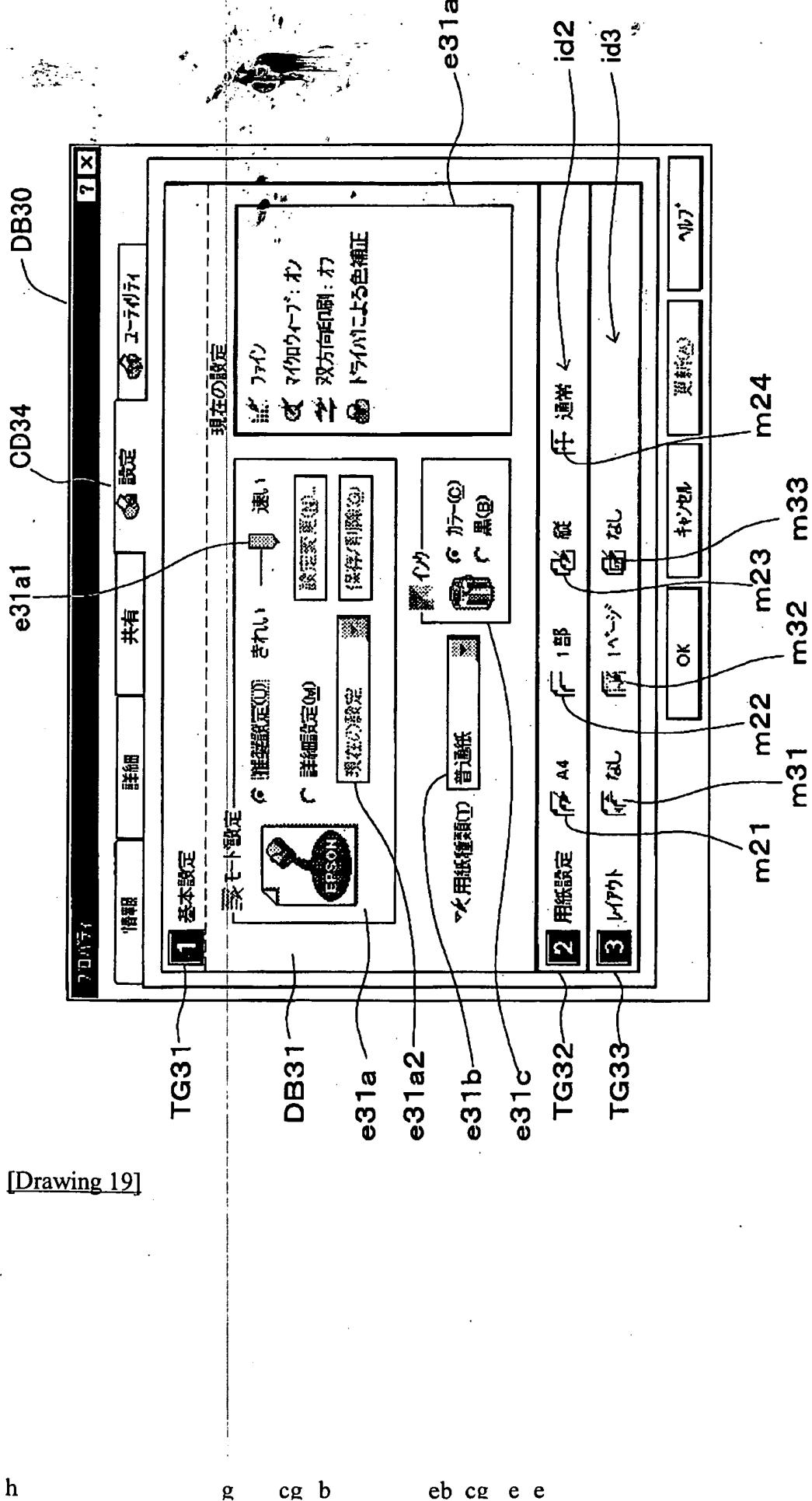
[Drawing 16]

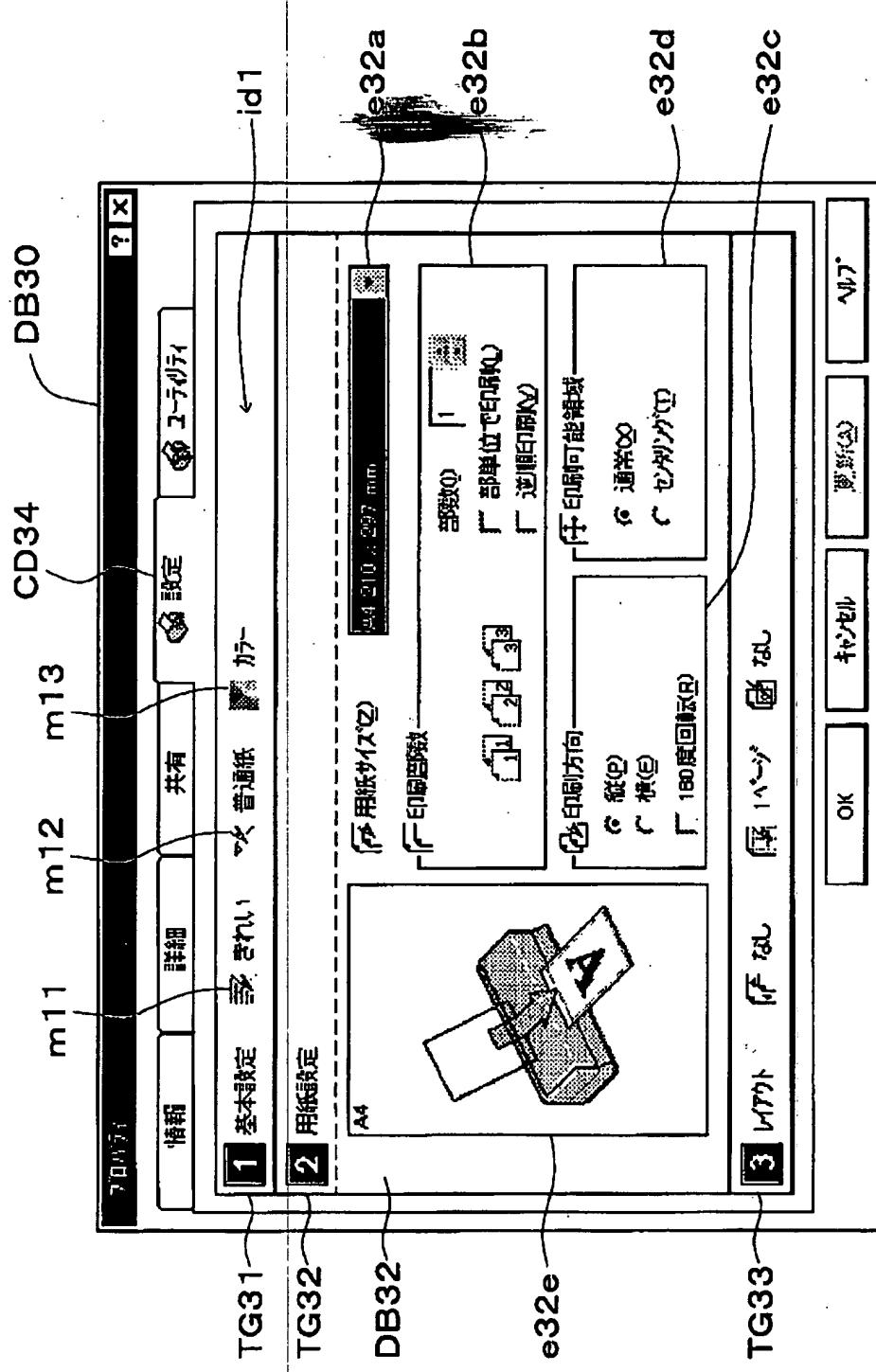
## ↖ TBL2 画像管理テーブル

作業手順	タグ画像	マーク画像
原稿	Pic 31	Pic 21
	 <input checked="" type="checkbox"/> 原稿サイズ(S) <input type="checkbox"/> 用紙方向 G:縦(P) <input type="checkbox"/> 横(D)	 <input type="checkbox"/> 原稿サイズ(S) <input type="checkbox"/> 用紙方向 G:縦(P) <input type="checkbox"/> 横(D)
用紙	Pic 32	Pic 22
	 <input checked="" type="checkbox"/> 用紙種類(M) <input type="checkbox"/> 音声紙	 <input type="checkbox"/> 用紙サイズ(S) <input type="checkbox"/> 210 × 297 mm
品質	Pic 33	Pic 23
	 <input checked="" type="checkbox"/> テーブル判定 <input type="checkbox"/> 品質 <input type="checkbox"/> きれい <input type="checkbox"/> 遠い	
部数	Pic 34	Pic 24
	 <input checked="" type="checkbox"/> 部数(D) <input type="checkbox"/> <input type="checkbox"/>	 <input type="checkbox"/> <input type="checkbox"/>

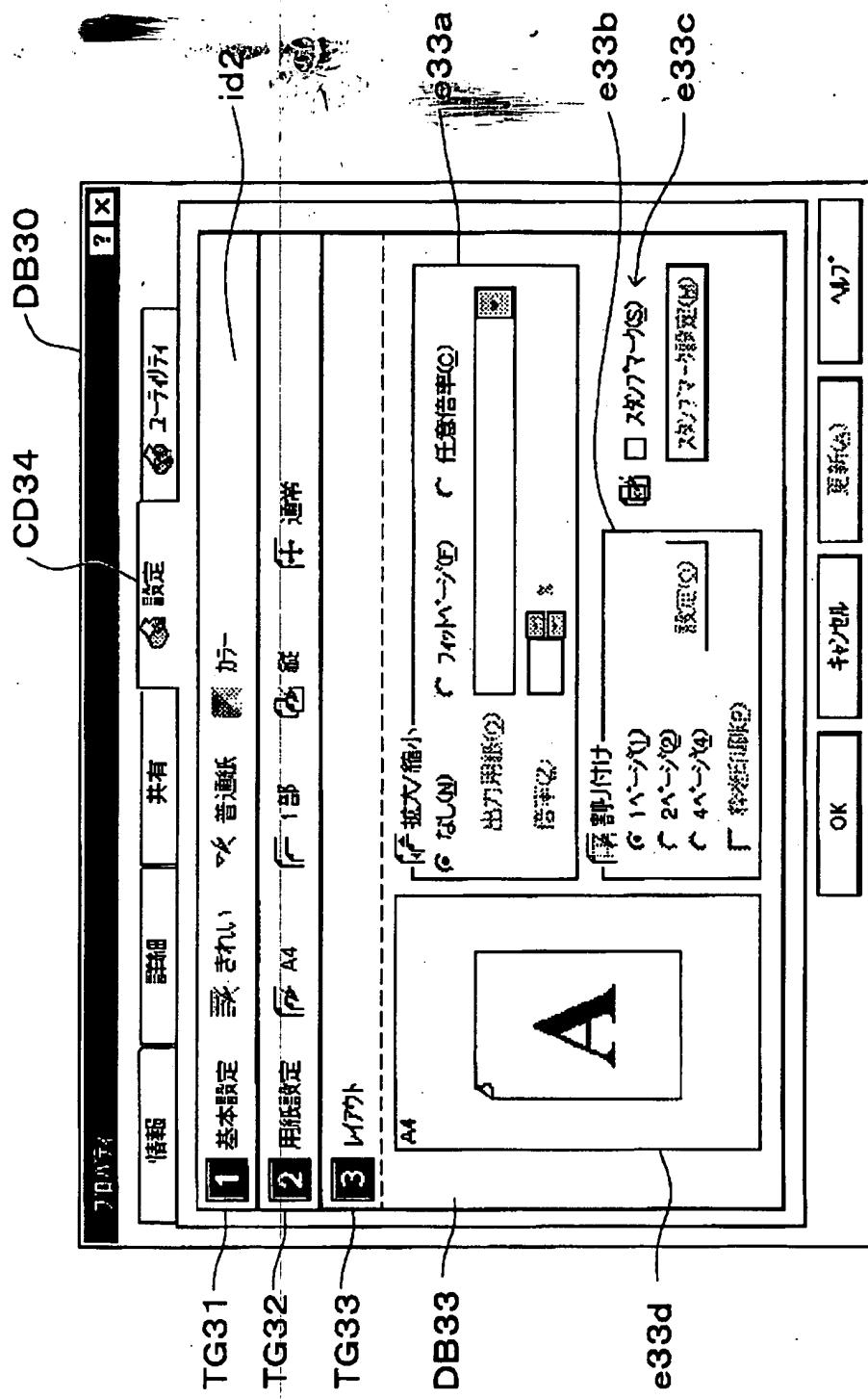
[Drawing 17]







[Drawing 20]



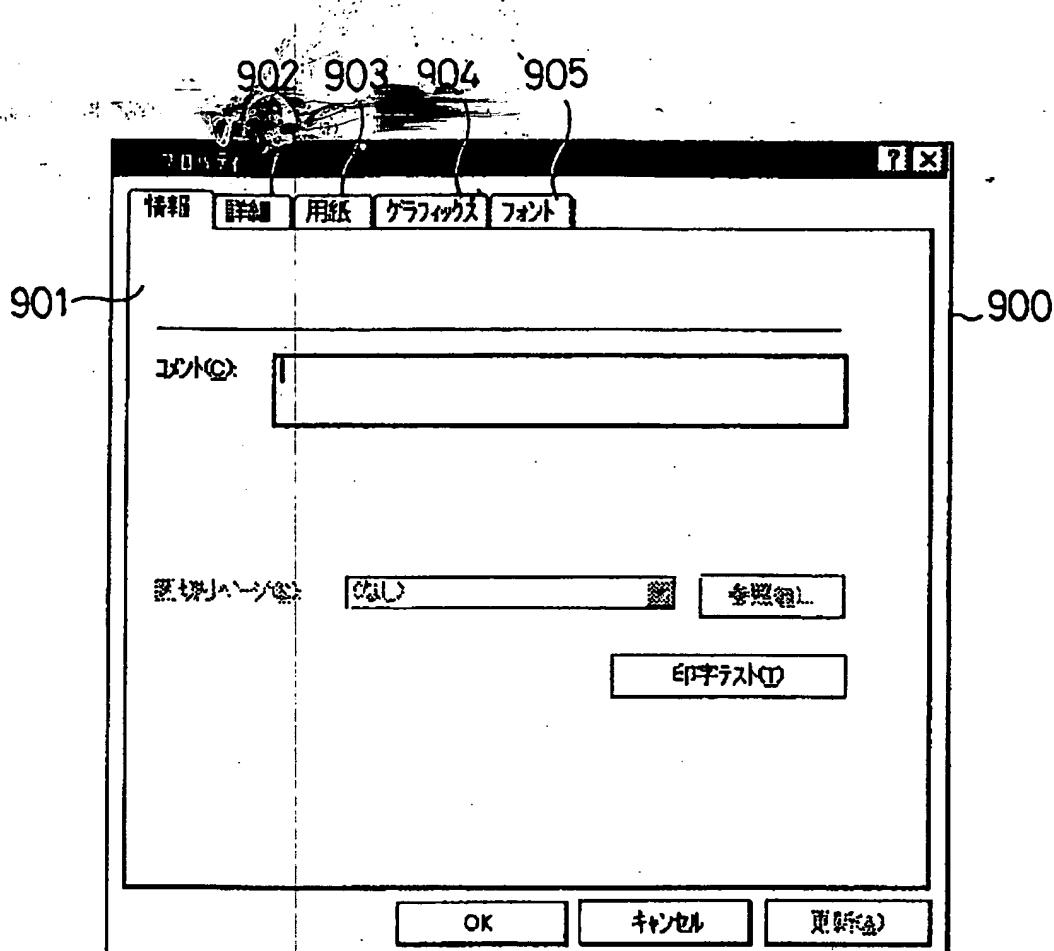
### [Drawing 21]

h

g

cg b

eb cg e e



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[Translation done.]

US-PAT-NO: 5134606

DOCUMENT TYPE: FIG 5134606 A

TITLE: Method and optical recording system for optimizing laser beam

DATE-ISSUED: July 28, 1992

Patent

July 28, 1992

Sheet 2 of 4

5,134,606

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APPL-NO: 07/ 549986

DATE FILED: July 9, 1990

COUNTRY: FOREIGN-APPL-PRIORITY  
JP APPL-NO: 1-174110  
JP 1-230807  
JP 1-250744

INT-CL: [05] G11B007/00

US-CL-ISSUED: 369/116, 369/54, 369/56

US-CL-CURRENT: 369/116, 369/53.26, 369/

FIELD-OF-SEARCH: 369/116; 369/121; 369/122; 369/47; 369/48; 369/123; 250/205

## REF-CITED:

PAT-NO	U.S. PATENT DOCUMENT	ISSUE-DATE
4769802		September 1988
<u>4866692</u>		September 1989
<u>4982389</u>		January 1991
<u>4982397</u>		January 1991
5005164		April 1991

ART-UNIT: 235

PRIMARY-EXAMINER: Envall, Jr.; Roy N.

ASSISTANT-EXAMINER: Tran; Thang V.

ATTY-AGENT-FIRM: Sughrue, Mion, Zinn, M

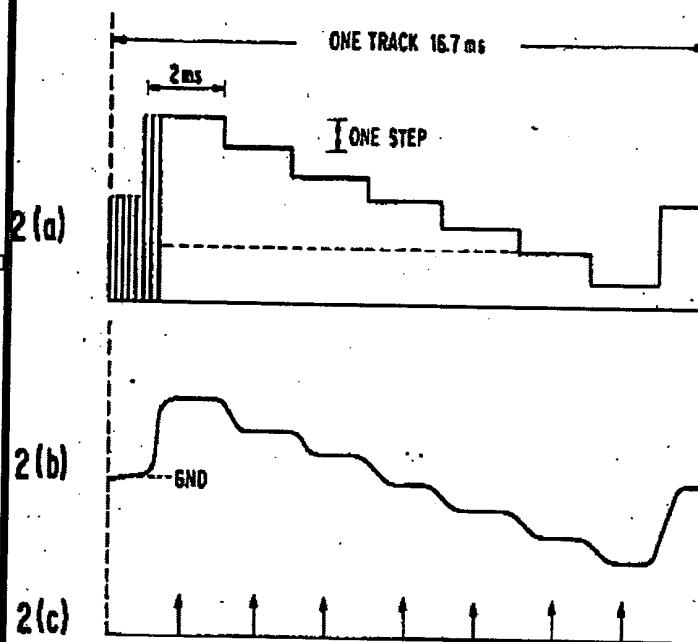


FIG. 3(a)

LOW POWER

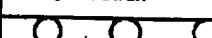


FIG. 3(b)

OPTIMAL POWER

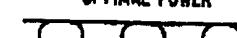
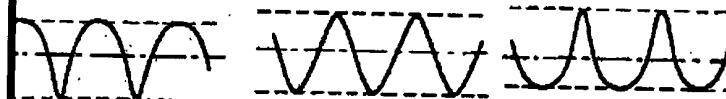
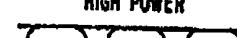


FIG. 3(c)

HIGH POWER



	Type	L #	Hits	Search Text	DBs	Time Stamp	Comments
1	BRS	L1	16	((laser near5 (power near3 level)) same stepwise)	USPA T	2004/03/1 5 10:25	
2	BRS	L2	10	((laser near5 (power near3 level)) same stepwise)	US-P GPUB EPO; JPO; DERW ENT; IBM_ TDB	2004/03/1 5 10:25	

	Error Definition	Er ro rs
1		0
2		0

US-PAT-NO:  
DOCUMENT-ID:  
TITLE:  
DATE-ISSUED  
INVENTOR-IN  
NAME  
Ohno; Takas  
Horie; Mich  
ASSIGNEE IN  
NAME  
Mitsubishi  
Corporation  
APPL-NO:  
DATE FILED:  
PARENT-CASE  
Application  
filed on Oct 10, 2000  
COUNTRY  
JP  
JP  
INT-CL:  
US-CL-ISSUE  
US-CL-CURRE  
FIELD-OF-SE  
REF-CITED:  
PAT-NO  
5136573  
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5572502  
5646930  
5965323  
5995472  
6004646  
E115250

**U.S. Patent** May 20, 2003 Sheet 12 of 52 **US 6,567,367 B2**

**FIG. 12**

